DOCUMENT RESUME

ED 073 344 AC 014 207

AUTHOR	Yoesting, Dean R.; Burkhead, Dan L.
TITLE	Significance of Childhood Recreation Experience on Adult Leisure Behavior: An Exploratory Analysis.
INSTITUTION	Iowa Agricultural and Home Economics Experiment Station, Ames.
SPONS AGENCY	Department of the Interior, Washington, D.C. Office of Water Resources Research.; Iowa State Univ. of Science and Technology, Ames. Water Resources Research Inst.
PUB DATE	[72]
NOTE	19p.; Journal Paper No. J-7312
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Adult Characteristics; *Behavior Patterns; *Childhood Interests; Leisure Time; *Participation; *Recreational Activities; Skill Development; Socialization; Technical Reports

ABSTRACT

This paper examines the impact of the level of activity of an individual as a child on the activity level of that individual as an adult. The study is based on a stratified random sample of adult residents in 6 rural Iowa counties regarding 35 outdcor recreation activities. Five hypotheses were tested. The results indicate a direct effect of the level of participation as a child on adult level of participation. Childhood residence has no effect on adult activity level or on the percentage or composition of adult activities that included childhood activities. Childhood outdoor recreation activities are an important predictor of adult recreation activities in that approximately 40 percent of the 35 activities were participated in similarly during childhood and adult life. (Author)

FILMED FROM BEST AVAILABLE COPY

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

ED 073344

Significance of Childhood Recreation Experience on Adult Leisure Behavior: An Exploratory Analysis*

Dean R. Yoesting
Department of Sociology
Department of Forestry
Iowa State University, Ames

Dan L. Burkhead
Division of Aging, HEW
Washington, D.C.

ABSTRACT

This paper examines the impact of the level of activity of an individual as a child on the activity level of that individual as an adult. The study is based on a stratified random sample of adult residents in 6 rural Iowa counties regarding 35 outdoor recreation activities. Five hypotheses were tested. The results indicate a direct effect of the level of participation as a child on adult level of participation. Childhood residence has no effect on adult activity level or on the percentage or composition of adult activities that included childhood activities. Childhood outdoor recreation activities are an important predictor of adult recreation activities in that approximately 40 percent of the 35 activities were participated in similarly during childhood and adult life.

KEY WORDS: Participation, Socialization, Childhood Participation, Outdoor Recreation, Adult Participation, Childhood Residence

* Journal Paper No. J-7312 of the Iowa Agriculture and Home Economics Experiment Station, Ames, Iowa. Project No. 1809. This project is also financed in part by a grant from the U.S. Department of Interior, Office of Water Resources Research under Public Law 88-379 and made available through the Iowa State Water Resources Research Institute. Statistical consultant for this paper was Richard D. Warren, Iowa State University, Ames, Iowa.

AC014207

Significance of Childhood Recreation Experience on Adult Leisure Behavior: An Exploratory Analysis

Numerous variables have been analyzed to determine their impact on one's participation in outdoor recreation activities. These have included personal, social, economic and environmental factors, but only minimal explanation has accrued from these studies (Knopp, 1972; Outdoor Recreation Resources Review Commission, 1962; Manning, 1968; Boyet and Tolley, 1966; Dyer and Whaley, no date; Gillespie and Brewer, 1969). Recreation planning agencies continue to use these variables to justify growth and to develop new recreation facilities. Because of the inability to accurately predict from these variables a better understanding of the recreation experience and the importance of that experience to the recreationists must be developed. From this understanding we can determine what kind of opportunities for recreation experiences must be created. As Lime (1972:198) stated:

> "If managers are to know how to manage their lands in order to maximize user satisfaction, they must, in part, know who their clientele are... and know something about what these people like and dislike. Learning about their clientele implies the need to listen not only to people who visit the area but also to those who do not come but still have an interest in it."

The potential of user satisfaction must exist before the resource managers and policy makers can justify the need for new facilities. There will more likely be sound management of the facilities if the causative factors that influence the selection of certain activities of the recreationists can be isolated.

Although much has been written concerning the theoretical causative aspects of leisure activities (Copp, 1964; Roberts, 1970; Parker, 1971; Witt and Bishop, 1970; Burch,1969; Cheek, 1971; Kando and Summers, 1971),

and descriptive studies of the amount of participation in certain types of recreation activities by socio-economic variables, little has been done to empirically test the theoretical explanations proposed.

In the area of leisure activities, Witt and Bishop (1970) proposed five "need" theories to help explain leisure behavior. The respondents, junior-college students, were presented with 10 hypothetical situations intended to represent the various theories and asked to choose one of 13 different activities as a response to the situation presented. They found that situational antecedents had a significant effect on the activities chosen. Three theories (surplus energy, catharis, and compensation theories) were better predictors than were the other two (relaxation and task generalization theories) in determining the behavioral response, but the best predictions were obtained when more than one theory was used. Because it is necessary to use more than one of the theories to increase the predictability, caution must be exercised in their use and validity can be challenged.

Burch (1969) discussed three competing explanations of leisure. Neither the familiarity theory nor the compensatory theory were adequate explanations of leisure behavior. He felt that theory could be supplemented by a more meaningful approach he called "personal community theory". In other words, one's inner social circle of acquaintances would be of greater influence on leisure behavior than would other factors. The choice of this reference group, however, is greatly determined by the socialization during childhood. Therefore, in adulthood, one will choose groups that participate in activities similar to those established during his childhood, because these reference groups will reinforce his values concerning leisure behavior and will further support the style of life with which he is familiar.

Cheek (1971) also supported the notion of the social group providing a significant impact on one's leisure behavior. In analyzing data of persons who attended the zoo, Cheek concluded that... "going to a local park is something done as a member of a social grouping" (Cheek, 1971:254). He (Cheek, 1971:254) also concluded that, for a number of activities participated in by his respondents, "...for those who participated, over seventy percent did so with others in all activities."

Opportunity theory is another possible causative explanation. This theory implies that participation in different forms of outdoor recreation is influenced by their availability. Hauser tested this theory and found support for the hypothesis. Given support for this hypothesis, resource managers can utilize the results by manipulating the opportunities to enable the recreationist to have a satisfying experience in the out-of-doors.

Another possible cause that has received little attention in the area of leisure activities is the relation of childhood experiences to adult leisure activities. Patrick (1945) asked a sample of 120 young unmarried individuals between the ages of 20 and 30 to respond to a list of 48 activities and to indicate whether or not and to what extent they had participated or did presently participate in each activity. Some items referred to childhood activities and some to present activities. When participation in activities when a child was correlated with present participation of the same item, she concluded that, "adult leisure activities are not highly correlated with those of childhood, although there are a few instances in which the early activity bears a marked relation to the later one. Childhood

participation in leisure activities frequently does not lead to the continuance of them in later years" (Patrick, 1945:78). She found that participation in outdoor games of childhood seldom related with adult pursuit of athletics, although this was more true for women than for men.

Hendee et al., (1968:18) found, however, that, among his sample of wilderness-area campers, 70 percent had taken their first camping trip before they were 15 years old. Among hunters studied in the Northeast, childhood participation was a primary factor in present participation (Bevins, et al., 1968). Based on responses to questions concerning three childhood outdoor recreation activities, it was concluded that, "once a person has acquired experience with an activity, he is more likely to continue as he grows older than people who do not engage in this activity in their youth" (Outdoor Recreation Resources Review Commission, 1962:23).

As discussed by Burch and Wenger (1967), Burch (1969), and Hendee (1969), pleasant childhood memory theory, which states that activities pleasantly familiar during childhood tend to attract one as an adult, was substantiated by data that indicated that childhood camping and hiking experiences were related to adult styles of camping.

Finally, Sofranko and Nolan (1972) reported a study of the relationship between early life experiences and adult participation in hunting and fishing. They found that residence in youth and the source of introduction to hunting and fishing were related to the extent of participation during youth. They also found that frequent participation during youth was related to frequent participation as adults, but that no relationship existed between residence in youth or source of

introduction and the adult level of participation.

Evidence exists, then, that childhood participation in certain outdoor recreation activities is a significant determinant of adult participation in those activities. Therefore, by measuring the number of activities carried through from childhood and by determining to what extent earlier participation can determine the amount of those activities, one can determine if childhood outdoor recreation activities can contribute significantly to the explanation of adult recreational activities.

The childhood experiences in outdoor recreation activities, then, are another alternative to explain one's adult leisure behavior. An adult is more likely to want to participate in an activity if pleasant memories exist from earlier experiences with that acitivity. The skills have been learned and the socialization effect has carried over to adult behavior.

If either the task generalization theory (Witt and Bishop, 1970) or the familiarity theory (Burch, 1969) were longitudinal in nature, they might explain quite well the continuation of an activity from childhood to adulthood by demonstrating that generalizing a response or not changing an activity was due to a need for security and an anxiety connected with the uncertainty of changing to an unfamiliar activity. Doing the same or similar activities connected with pleasant memories of one's past may in itself be enjoyable to the individual rather than the activity itseif. It may be that one would lose this accompanying feeling of pleasant memories and security by changing activities, and therefore, because of the high cost of uncertainty attached to new activities, he would be likely to return to the old activities.

Thus, a modification of these two theories into one that involves childhood socialization and its impact on adult recreation behavior seems to be a viable approach to the determination of adult recreation behavior.

Hypotheses

Hypothesis 1. The level of participation of an individual as a child has a direct effect on the level of participation of that individual as an adult.

Hypothesis 2. Childhood residence of an individual has no significant effect on the activity level of that individual as an adult.

Hypothesis 3. Childhood residence of an individual has no significant effect on the proportion of adult outdoor recreation activities that comprise activities in which he participated as a youth.

Hypothesis 4. The number of childhood outdoor recreation activities of an individual is a significant predictor of the number of adult outdoor recreation activities of that individual that were among those in which he participated during childhood.

Hypothesis 5. For any childhood outdoor recreation activity in which the individual participated, it is more likely that that activity has been continued as an adult than that it has been discontinued.

Table 1

Childhood Residence of Respondents

Residence Category	During Age 6-11 N	%	During Age 12-17 N	%
Farm	79	57.7	68	50.0
Rural nonfarm	4	2.9	4	2.9
Town 1000	21	15.3	23	16.9
Town 1000-2500	14	10.2	13	9.6
City 2500-10,000	9	6.6	15	11.0
City 10,000-50,000	7	5.1	12	11.8
City 50,000+	3	2.2	1	.7
	137	100.0	136*	99.9

* 1 no data

Procedures

Six predominantly rural counties were selected as a universe. A stratified area sample was selected with emphasis on the rural segment of the population (the largest town included had 8,000 inhabitants). A total of 137 respondents, age 20 or older, completed the interview schedule during the summer of 1970.

The following variables were used to operationalize the concepts in the hypotheses. For purposes of this study, the activity level of the individual will be defined as the number of outdoor recreational activities mentioned by the individual for each time asked. A list of 35 outdoor recreation activities and an "other" category were presented to the respondent at three different times during the interview. The respondent was asked to recall the activities he participated in during ages 6-11 (time 1), during ages 12-17 (time 2), and presently (time 3, 1970 for this sample). To obtain the activity level for each time the total number of activities mentioned (including the "other" response) were calculated.

No distinction was made regarding the intensity of involvement. The respondent only indicated a yes or no for participation in each activity. The age categories were selected according to two criteria. One of these was according to grade levels in school: elementary school (ages 6-11) and junior high and high school (ages 12-17). The other criterion was that during time 1 the main reference group of the child tends to be the family, and that by the time the child reaches junior high, the peer group usually takes predominance as his most salient reference group.

Childhood residence was determined by a seven-category response item based on U.S. Census division of the population. The responses varied from farm residence to cities of over 50,000 inhabitants.

(Table 1 about here)

To determine the percentage of present outdoor recreation activities thatcomprise activities in which the respondent participated as a youth, the following procedure was used. The lists of activities from two different times were compared, and the number of activities mentioned at both times was tabulated. This number was placed over the number of present activities mentioned to obtain a percentage score for each individual. These comparisons were made between the list for ages 6-11 (time 1) and the list for the present (time 3) and between the list for ages 12-17 (time 2) and the list for the present (time 3). These percentage scores will be identified as time 3(1) and time 3(2), respectively, for parsimonious identification of the two comparisons made.

To test the first four hypotheses empirically, a simple regression analysis assuming a linear additive model was performed (Steel and Torrie, 1960, page 164). More than one analysis was made for each hypothesis to obtain relationships between time 1 and time 3 or between time 2 and time 3.

Because the same subjects were tested for two points in time, and thus, the measurements are not independent, it was necessary to test for the difference between two proportions as described by Edwards (1960, pp. 57-60) to empirically test hypothesis 5. A total of seventy F values were obtained: two for each activity.

Results

The statistical findings for the first four hypotheses are summarized in Table 2. A description of those results follows.

(Table 2 about here)

Table 2

Summary of Linear Regression Analysis Showing Independent and Dependent Variables, F Values, and Percentage of Variance Explained.

Independent Variable	Dependent Variable	F Values	% of variance explained
Hypothesis 1			
No. of act. (Time 1)[1]	No. of act. (Time 3)[2]	56.97**	29.68
No. of act. (Time 2)[3]	No. of act. (Time 3)	60.40**	30.91
Hypothesis 2			
Residence (Time 1)	No. of act. (Time 3)	0.01	0.01
Residence (Time 2)	No. of act. (Time 3)	0.50	0.37
Hypothesis 3			
Residence (Time 1)	% of similar act. [Time 3(1)]	0.25	0.18
Residence (Time 2)	% of similar act. [Time 3(2)]	0.06	0.05
Hypothesis 4			
No. of act. (Time 1)	No. of similar act. [Time 3(1)]	170.33**	55.79
No. of act. (Time 2)	No. of similar act. [Time 3(2)]	152.21**	53.00

[1] Time 1 is ages 6-11

[2] Time 3 is present (1970)

[3] Time 2 is ages 12-17

** Significant at the .01 level

When the number of outdoor recreation activities in which the respondent presently (1970) participates were regressed on the number of childhood outdoor recreation activities in which the respondent participated during the ages 6-11, the number of childhood activities (time 1) made a significant contribution in explaining the number of adult activities ($F=56.97$, $p \leq .01$). When the same dependent variable was regressed on the number of outdoor recreation activities participated in during ages 12-17, participation during ages 12-17 made a significant contribution to the explanation of the number of activities participated during the summer of the interview ($F=60.40$, $p \leq .01$). Thus, hypothesis 1, that the level of participation of an individual as a child has a direct effect on the level of participation of that individual as an adult is supported, for both childhood time periods.

Childhood residence during ages 6-11 made no significant contribution to the explanation of the number of outdoor recreation activities in which the respondent participates as an adult ($F=0.01$, $p \geq .50$). Neither was childhood residence during ages 12-17 related to the number of present activities ($F=0.50$, $p \geq .50$). (Note: present residence also has no statistically significant relationship to the number of outdoor recreation activities at the corresponding time; ($F=0.96$, $p \geq .30$) for time 1, ($F=0.74$, $p \geq .40$) for time 2, ($F=1.82$, $p \geq .15$) for time 3). Hypothesis 2, that childhood residence of an individual has no significant effect on the activity level of that individual ... as an adult, is supported.

When the percentage of the respondent's present outdoor recreation activities that comprise activities of his childhood from ages 6-11 was the dependent variable in the regression analysis, childhood residence during ages 6-11 is not a statistically significant factor ($F=0.25$, $p \geq .50$). Childhood residence during ages 12-17 did not contribute significantly to the percentage of the respondent's present outdoor recreation activities that comprises activities of his childhood from ages 12-17 ($F=0.06$, $p \geq .50$). Thus, hypothesis 3, that childhood residence of an individual has no significant effect on the proportion of adult outdoor recreation activities that comprise activities in which he participates as a youth, is supported.

When the number of present outdoor recreation activities that comprises the activities in which the respondent participated during ages 6-11 is regressed on the number of activities of the respondent during ages 6-11, the contribution of the number of activities participated in during ages 6-11 is significant in the explanation of the former ($F=170.33$, $p \geq .01$). The number of childhood outdoor recreation activities participated in during ages 12-17 was a significant factor in the explanation of the number of present outdoor recreation activities that comprises the activities in which the respondent participated during the ages 12 through 17 ($F=152.21$, $p \geq .01$). Hypothesis 4, that the number of childhood outdoor recreation activities of an individual is a significant predictor of the number of adult outdoor recreation activities of that individual were among those in which he participated during childhood, was supported.

A difference of proportion analysis was performed on each of the 35 outdoor recreation activities between those activities participated in during ages 6-11 (time 1) and those presently participated in

(time 3), and between those activities participated in during ages 12-17 (time 2), and those presently participated in (time 3). Ideally, one would hope to find no significant differences in the difference of proportion analysis, which would indicate that the respondents participated in similar activities at all three points in time. Of the first 35 comparisons made, no significant differences existed in participation among 38.7 percent of the activities between time 1 and time 3. Between time 2 and time 3, 41.2 percent of the 35 comparisons contained no significant differences in participation. A summary of the individual difference of proportion values for each activity appears in Table 3. On the basis of the number of comparisons between childhood participation and present participation in outdoor recreation activities that show no significant differences, there is partial support for hypothesis 5.

(Table 3 about here)

Discussion

The activity level of an individual as a child seems to have a direct effect on the activity level of that individual as an adult. Both of the analyses performed were significant and accounted for 29.7 percent of the variance explained for time 1 and 30.9 percent, for time 2 (Table 2). Evidence exists that, among the population sampled, individuals active in outdoor recreation activities as a child continue to be active as adults and that inactivity during childhood creates inactivity as adults. Thus, socialization during childhood and the familiarity of activities participated in have an impact in the determination of adult recreation behavior. The security provided

Table 3

Differences of Proportion Analysis of 35 Recreation Activities for Time 1 vs. Time 3 and for Time 2 vs. Time 3.

Activity	Time 1 vs. Time 3 Z Value	Time 2 vs. Time 3 Z Value
Bicycling	6.326	5.746
Horseback riding	5.963	6.161
Golf	4.007	3.212
Baseball & softball	8.314	8.039
Football & soccer	4.118	4.828
Basketball & vollyeball	4.526	7.426
Tennis & badminton	1.250*	4.118
Hiking, walking for pleasure, bird watching, nature photography	4.858	3.946
Gathering nuts, mushrooms, berries & specimens	6.044	4.603
Driving for pleasure & sight-seeing	7.121	3.096
Motor bike & motor cycling	N.R.	0.516*
Attending outdoor activities--sports events, concerts, plays	3.776	0.737*
Camping trailer--bus, tent, pick-up	4.287	3.600
Camping tent	1.251*	1.668*
Group camping (youth camps, church groups, etc.)	2.012	3.714
Picnics	2.704	0.147*
Target or trap shooting	0.640*	2.294
Archery	0.289*	0.603*
Hunting small game	1.739*	4.372
Hunting big game	0.000*	0.000*

Table 3 (con't)

Activity	Time 1 vs. Time 3 Z Value	Time 2 vs. Time 3 Z Value
Hunting water fowl	0.949*	3.615
Ice skating, hockey	7.082	6.482
Snow mobiling	N.R.	1.768*
Skiing, downhill & cross country	1.768*	2.412
Sledding, sliding & tobogganning	8.596	6.788
Ice fishing	0.354*	0.354*
Ice boating	N.R.	N.R.
Power boating	2.772	1.066*
Water skiing	2.667	0.000*
Sailing	N.R.	0.707*
Canoeing	0.000*	1.225*
Other boating, rowboat, small motor, fishing, etc.	0.945*	1.352*
Swimming--pool	1.021*	3.601
Swimming--natural environment	4.667	5.714
Fishing	2.521	1.874*

* Not statistically significant. Therefore, supports the idea that the activity was participated in similarly during childhood and adult life. N.R. means that no respondent participated in that activity at one or both times compared.

and the memories kept of those activities participated in during childhood have an influence on the kinds and extent of involvement during adult life. The data supported the proposition that childhood residence has no significant effect on the activity level of an individual as an adult. Residence as a child also had no effect on the percentage or the composition of adult outdoor recreation activities that included childhood activities. Therefore, no predictions can be made on the basis of residence.

Substantial evidence indicates that childhood outdoor recreation activities of an individual are an important predictor of the adult outdoor recreation activities of that individual. The number of childhood activities was a significant predictor of the number of present activities carried through from childhood. Although one cannot account for new activities in this framework, it might be possible to predict to some degree what will be carried on from youth to adult leisure behavior. To illustrate this idea (hypothesis 5) further, 12 activities (tennis-badminton, tent camping, target shooting, hunting, skiing, canoeing, etc.) showed no difference in participation between time 1 and 3, and 14 activities (motorcycling, picnics, hiking, fishing, boating, etc.) showed no differences in participation between time 2 and 3. This provides new insights into a better understanding of factors related to adult leisure behavior.

Thus, childhood experience can be a meaningful way to examine present outdoor recreation participation, and with some methodological refinements in measurement (e.g., overcoming recall problems) and statistical techniques, it may become a useful tool for prediction of outdoor recreation demand in the future. If childhood experience is a good predictor for adult recreation participation behavior, it

would be possible to utilize school facilities for interviewing to determine leisure activities rather than using extensive personal interviews with adults. A better predictive model could be constructed after determining what aspects of childhood are the significant variables which are related to an activity being continued.

Limitations of the Data

In any exploratory study, such as this one, there are always qualifications and limitations that should be considered in the interpretation of the methods and results obtained. One such factor is the manner in which the longitudinal data was acquired. Whenever recall is the basis for collecting data on the past, one must take into consideration the accuracy of the memory of the respondent. In a future study, this may be overcome by measuring individuals at more than one point in time or by using a matched-pair sample. A qualification that must be placed on the analysis is that when the same dimension is measured at two times, there is already a tendency for the two measurements to be related; any relationship obtained in analysis must take this fact into consideration. The intensity of involvement also should be accounted for in addition to the dichotomized yes-no responses.

Specific commonly cited childhood antecedents need to be determined to draw more concrete conclusions of the influence of childhood leisure patterns on adult leisure patterns. A larger sample of respondents is necessary to draw firmer conclusions, but insights have been obtained to suggest that the socialization impact during childhood may be a significant contributor in predicting adult leisure behavior.

References

Bevins, Malcolm I., Robert S. Bond, Thomas J. Corcoran, Kenneth D. McIntosh, and Richard J. McNeil
1968 Characteristics of hunters and fisherman in six northeastern states. Vermont Agricultural Experiment Station Bulletin No. 656.

Boyet, Wayne L. and George S. Tolley
1966 "Recreation Projection Based on Demand Analysis." Journal of Farm Economics, 48 (November):984-1001.

Burch, William R., Jr.
1969 "The social circles of leisure: competing explanations." Journal of Leisure Research 1 (Spring):125-147.

Burch, William R., Jr., and Wiley D. Wenger, Jr.
1967 The social characteristics of participants in three styles of family camping. U.S. Forest Service Research Paper PNW-48.

Cheek, Neil H., Jr.
1971 "Toward a Sociology of Not-Work." Pacific Sociological Review 14 (July, 1971):245-258.

Copp, James
1964 Theoretical Perspectives on Outdoor Recreation. Paper presented at Rural Sociological Society meeting, Montreal Canada.

Dyer, A. Allen and R. S. Whaley
Predicting Use of Recreation Sites. Logan: Utah Agricultural Experiment Station. Bulletin 477.

Edwards, Allen L.
1960 Experimental Design in Psychological Research. New York: Holt, Rinehart, and Winston.

Gillespie, Glenn A. and Durward Brewer
1969 An Econometric Model for Predicting Water-Oriented Outdoor Recreation Demand. Washington, D.C., U.S. Department of Agriculture, Economic Research Service ERS-402.

Hauser, Philip M.
1962 "Demographic and ecological changes as factors in outdoor recreation." In Outdoor Recreation Resources Review Commission Study Report No. 22, pp. 27-59. Washington, D.C.: Government Printing Office.

Hendee, John C.
1969 "Rural-urban differences reflected in outdoor recreation participation." Journal of Leisure Research 1 (4):333-341.

Hendee, John C., William R. Catton, Jr., Larry D. Marlow and C. Frank Brockman
1968 Wilderness users in the Pacific Northwest--their characteristics, values and management preferences. U.S. Forest Service Research Paper PNW-61.

Kando, Thomas and Worth C. Summers
1971 "The Impact of Work on Leisure: Toward a Paradigm and Research Strategy." Pacific Sociological Review 14 (July): 310-327.

Knopp, Timothy B.
1972 "Environmental Determinants of Recreation Behavior." Journal of Leisure Research, 4 (Spring, 1972):129-138.

Lime, David W.
1972 "Behavioral Research in Outdoor Recreation Management: An Example of How Visitors Select Campgrounds." In Joachim F. Wohlwill and Daniel H. Carson (eds.) Environment and the Social Sciences: Perspectives and Applications. (Spring, 1972):198-206.

Manning, Glenn
1968 Demand Relationship for Outdoor Recreation in Iowa. Ames: Unpublished Ph.D. Dissertation, Iowa State University.

Outdoor Recreation Resources Review Commission
1962 Participation in outdoor recreation: factors affecting demand among American adults. Study Report No. 20.

Parker, Stanley
1971 The Future of Work and Leisure. New York: Praeger Publishers.

Patrick Catharine
1945 "Relation of childhood and adult leisure activities." Journal of Social Psychology 21:65-79.

Roberts, Kenneth
1970 Leisure. New York: Humanities Press, Inc.

Sofranko, Andrew, J. and Michael F. Nolan
1972 "Early life experiences and adult sports participation. Journal of Leisure Research 4 (Winter):6-18.

Steel, Richard G.D., and James H. Torrie
1960 Principles and procedures of statistics. New York: McGraw-Hill Book Company, Inc.

Witt, Peter A., and Doyle W. Bishop
1970 "Situational antecedents to leisure behavior." Journal of Leisure Research 2 (1):64-77.

ERIC Clearinghouse
MAR 20 1973
on Adult Education